Title (en)
ULTRASONIC-WAVE COMMUNICATION SYSTEM

Title (de)
ULTRASCHALLWELLENKOMMUNIKATIONSSYSTEM

Title (fr)
SYSTÈME DE COMMUNICATION PAR ONDES ULTRASONIQUES

Publication
EP 2940906 A4 20160323 (EN)

Application
EP 13869763 A 20131227

Priority
• JP 2012288264 A 20121228
• JP 2013085071 W 20131227

Abstract (en)
[origin: EP2940905A1] Provided is an ultrasonic-wave communication system where the influence of ambient noise and the Doppler effect
are suppressed and where a user of a portable terminal is prevented from hearing unwanted sound. After performing encryption processing of
predetermined information such as store information, a beacon 5 sends out predetermined-information-containing beacon information of one channel
as ultrasonic waves into the salesroom 3 by combining a control carrier, a first carrier, and a second carrier in such a way that a first carrier signal
and a second carrier signal are output between control carrier signals a number of times according to the predetermined information and that a state
where the first carrier signal and/or the second carrier signal is output is maintained.

IPC 8 full level
H04B 11/00 (2006.01); **H04M 1/00** (2006.01); **H04M 11/00** (2006.01)

CPC (source: EP US)
G01S 1/725 (2013.01 - EP US); **G01S 1/75** (2019.07 - EP US); **H04B 11/00** (2013.01 - EP US); **H04L 9/00** (2013.01 - US);
H04L 63/0428 (2013.01 - US); **H04L 67/04** (2013.01 - EP US); **H04W 12/0471** (2021.01 - EP US)

Citation (search report)
• [A] CN 102739320 A 20121017 - TENDYRON TECHNOLOGY CO LTD & US 2015156589 A1 20150604 - LI DONGSHENG [CN]
• [A] US 2012051187 A1 20120301 - PAULSON BRETT L [US]
• [IA] WILL ARENTZ ET AL: "Near ultrasonic directional data transfer for modern smartphones", PROCEEDINGS OF THE 13TH
  INTERNATIONAL CONFERENCE ON UBIQUITOUS COMPUTING, 17 September 2011 (2011-09-17), pages 481 - 482, XP055205626, DOI:
  10.1145/2030112.2030181
• See references of WO 2014104284A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2940905 A1 20151104; **EP 2940905 A4 20160309**; **EP 2940905 B1 20191009**; CN 104885387 A 20150902; CN 104885387 B 20170728;
CN 104919732 A 20150916; CN 104919732 B 20170412; EP 2940906 A1 20151104; EP 2940906 A4 20160323; EP 2940906 B1 20170517;
ES 2633457 T3 20170921; ES 2757876 T3 20200430; JP 6228539 B2 20171108; JP 6275040 B2 20180207; JP WO2014104284 A1 20170119;
JP WO2014104285 A1 20170119; TW 201431306 A 20140801; TW I600289 B 20170921; US 2015309151 A1 20151029;
US 2015318983 A1 20151105; US 9529071 B2 20161227; US 9709655 B2 20170718; WO 2014104284 A1 20140703;
WO 2014104285 A1 20140703

DOCDB simple family (application)
EP 13869343 A 20131227; CN 201380068329 A 20131227; CN 201380068466 A 20131227; EP 13869763 A 20131227;
ES 13869343 T 20131227; ES 13869763 T 20131227; JP 2013085071 W 20131227; JP 2013085072 W 20131227; JP 2014527378 A 20131227;
JP 2014527388 A 20131227; TW 102148760 A 20131227; US 201314648295 A 20131227; US 201314649764 A 20131227